

W5YI

America's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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FCC Authorizes New HF Service, Ham Bands Unaffected

The merging of two new radio technologies could impact some users and listeners of the HF bands. Thanks to ongoing work by the ARRL, the impact will be more on other radio services and short wave listeners than on HF ham operators.

The two technologies are RBDS and the so-called "stealth" HF packet radio system of transmitting wide-area communications which was developed for the military by the Harris Corporation. Very little seems to be known about the so-called "interference-minimizing 'stealth' waveform."

RBDS stands for the *Radio Broadcast Data Service* ...a fairly new American radio capability which has been in common use in Europe for some time. They call it RDS and the Radio Data Service name has also taken hold here in the U.S. RDS utilizes the SCA portion of the FM broadcast radio signal to transmit up to two channels of digital data of varying types to specially equipped receivers.

In Europe, where auto "smart radios" are equipped with RDS detectors, repeaters are used to carry the same station signal throughout the country. When the automobile begins moving out of range of a station's transmitter or translator site, the RDS data signal will change the frequency to another site where the signal from that station is stronger.

There are many imaginative uses for these digital subcarriers ... such as displaying the broadcast station's call sign or slogan on the radio, allowing you to search for a station by format or displaying messages being sent by the station about program-

ming or special events. When fully implemented, your radio will alert you to unusual traffic conditions and to emergency information -- even if your radio is turned off!

There are also other exciting possibilities for RDS ...such as radio paging, radio display advertising, combining with the Global Positioning System and so-called "Coupon Radio." It is all in the works.

"Coupon Radio" marries card "swiping" to RDS. When an FM radio station transmits a "coupon" special, the listener simply runs a special plastic card through the swiper which transfers the data from the receiver to the magnetic stripe on the card. You present your card to an advertiser to take advantage of some sort of special deal offered in the radio ad.

One FM station is transmitting a news service over RDS to LED reader boards on busses and advertising to billboards along the highway. Another is considering transmitting data over RDS directly to computer workstations.

And Panasonic is in the process of rolling out new RDS "wireless e-mail" pagers that deliver a wide range of subscription services such as stock market reports, news headlines, sports results, local weather and conventional messages of up to 64 characters in length. You simply compose the e-mail message on a personal computer and send it by modem to the RDS network.

All of these uses for RDS are one way ...forward link. That is, the data goes from the FM station to the user. For two way service you need a reverse

In This Issue...

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link ...a way to return messages to the originator. Well, a way has been found for long haul truckers to receive and send data ...as well to constantly know their whereabouts. The forward signal travels by RDS, the return signal goes by a new obscure type of unlicensed HF packet radio. It is a potentially huge market!

FCC waives rules to permit HF short data messaging

The FCC has authorized Flash Comm, Inc of Melbourne, Florida, to construct and operate a nationwide, commercial two-way short messaging, paging and location tracking system in the high frequency (HF 3-30 MHz) range subject to certain limitations. Flash Comm, founded and initially funded by Harris Corp, has developed state-of-the-art technology to enter the mobile messaging and vehicle tracking market.

The Commission believes that this authorization will benefit the public by allowing Flash Comm to provide low cost locating, monitoring and telemetry services. The FCC also said that authorization of this system would also provide them valuable information with which to evaluate proposals to establish rules permitting permanent operations of this type in the HF band.

Flash Comm describes itself as "an information products and services company recently formed to serve the specialized wide-area messaging needs of various sectors of the business, transportation and public safety communities." The firm wants to provide this service primarily to the long haul trucking industry.

The Flash Comm system provides two-way wireless messaging capability by employing new HF technology for the trucker back to the dispatcher link, and leasing RDS subcarriers of FM broadcast stations, to provide communications to the truck. The messages would be short - up to 200 characters inbound; 50 characters outbound.

Flash Comm's ten pound tamper-proof "black box" transponder (which they call an "Intelligent Transceiver Unit" or ITU) and antenna attaches to semi-trailers, tractors, busses, railcars, locomotives, buildings, and a variety of other mobile and fixed applications. Once attached and activated, the ITU provides comprehensive monitoring and location tracking of mobile and remote fixed objects over the Flash Comm network no matter where in the United States they are located. The tracking works in concert with the Global Positioning Service (GPS) network. Windows-based software delivers the information from the ITU to the driver's notebook computer.

Each addressable transponder will transmit only when directed to by the Flash Comm system. When so commanded, it will transmit a short digital HF "burst," less than 2 seconds in duration on average, on an unoccupied (at that moment in time) automatically selected HF channel. The Flash Comm system will choose an optimal HF channel for the transponder to use based on ionospheric propagation algorithms and a clear channel assessment

process involving six geographically diverse scanning receivers.

Flash Comm is signing up FM radio stations around the country to provide the outbound messaging over the Radio Data System digital subcarrier. Over 700 stations currently have RDS capability -- and more are joining every day. Flash Comm's hardware and software allows FM radio stations to change the features of the RDS data so that it can relay messages to specific long haul truckers. They believe their target market is enormous and are spending "big bucks" to get it underway!

Initially, Flash Comm explored the possibility of designing its system to operate on an unlicensed basis under the Commission's Part 15 rules. However, after checking with the FCC staff in late 1995, it was determined that this was not technically feasible.

On February 9, 1996, Flash Comm filed an application for authorization of its system in the Part 90 Business Radio Service. The application included a request that the Commission waive certain minor technical rules.

First, the Flash Comm application requested that they be permitted to use a narrow phase modulated digital emission type (2K80G1D) originally developed for military applications. Second, they wanted the station identification requirements waived to avoid extending the length of transmissions. Flash Comm suggested that a record keeping requirement could identify Flash Comm transmissions in the event of interference.

Finally, Flash Comm asked that the type acceptance requirements be waived. The application also explained that the system would be used for monitoring and tele-metering purposes that currently are not feasible because of the lack of a cost-effective data return link.

Public comments on the Flash Comm system

Shortly after the Flash Comm application, the FCC released a Public Notice, inviting comments on the waiver request. Comments were filed by five organizations. All opposed the waiver. They pointed out that the proposed Flash Comm system appears to be significantly different from any other HF system that has ever been authorized for use under Part 90, both in technical operation and in scope. Most were concerned that operation of the Flash Comm system could pose an unacceptable risk of harmful interference to their present or future HF operations.

Aeronautical Radio, Inc. argued that the Flash Comm system could adversely affect systems using the International Fixed and Aeronautical Mobile bands. They also said that Flash Comm had termed its system as "frequency hopping", implying that it has the undetectable characteristics of a spread spectrum system and that was not the case. Not only would the Flash Comm system increase the noise floor, but it would be detectable by conventional receiving equipment. The *Federal Aviation Administration* had similar objections.

Globe Wireless expressed concern that granting

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Flash Comm's request would lead to similar requests by other business radio users and could eventually result in "undisciplined use" of the HF spectrum.

Mobile Marine Radio, Inc., which provides public coast station service, said Flash Comm's proposed use would conflict with Part 80 maritime communications and could unfairly obtain a competitive advantage.

The *Department of Defense* believes the Flash Comm operation would adversely impact National Security/Emergency Preparedness operations. DoD said a major problem with respect to the effect of Flash Comm's system on government use of the HF spectrum is that Flash Comm's method of determining whether a channel is not in use is not sophisticated enough to determine if the channel is indeed clear. Military HF radio facilities use receiving systems many times more sensitive than those proposed by Flash Comm and a military station could be receiving weak signal transmissions that are unheard by the Flash Comm system.

DoD also objected to the waiver of type acceptance. It said that such waivers are generally granted for one-of-a-kind units. Flash Comm wants the waiver to "...cover hundreds or thousands of transmitters, eventually made by different manufacturers..." DoD feels that there are satellite-based alternatives to Flash Comm's system.

Impact on the HF ham bands

Although Flash Comm did not propose operation on HF spectrum currently allocated to amateur radio, the American Radio Relay League, Inc. still objected to the Flash Comm waiver request. ARRL said that such operation could be a potential source of interference to future amateur radio operations in portions of the HF bands that have been identified by the National Telecommunications and Information Agency (NTIA) as potential candidates for allocation to the Amateur Radio Service during upcoming international conferences.

Those bands include a 50 kHz segment at 5 MHZ, a 300 kHz worldwide segment at 6.900 to 7.300 MHZ, and expansion of the 30 meter band (to 10.350 MHZ), the 20 meter band (to 14.400 MHZ), the 17 meter band (to 18.318 MHZ), the 12 meter band (down to 24.74 MHZ) and the 10 meter band (to 30.0 MHZ.)

Flash Comm's proposed operation impacted four of these possible new HF ham bands and the League asked that Flash Comm exclude those segments. ARRL indicated it would withdraw its objection if Flash Comm does so.

→ → → → *Continued on Page 10*

VANITY CALL SIGN GATE 3 OPENED AUGUST 6

By the time you read this, Gate No. 3 of the Vanity Call Sign System will have opened.

- 1) Advanced Class operators may request Group B (2-by-2), Group C (1-by-3) and Group D (2-by-3) call

signs.

- 2) You may request a station call sign using the paper FCC Form 610-V or the interactive Form 610-V on the FCC's website.
- 3) You may reach the website at the following Internet address: <http://www.fcc.gov/wtb/amradsrv.html>. Then click on the highlighted "Interactive Station Call Sign Application."
- 4) The two page form is basically the same as the paper copy with the exception that a few of the blanks are not included on the electronic version.
- 5) Your mailing address must agree with your current license. If it doesn't, then the license will still be sent to the address that the FCC has on record! You can not use the Form 610-V to advise the FCC of a new mailing address.
- 6) All mailed and electronically filed applications received on a specific day will be handled together with the electronically filed applications being handled first. It is to your advantage to file electronically since this increases your chances of obtaining a desired call sign.
- 7) Paper FCC Form 610-V applications and a \$30.00 check payable to the FCC should be sent to:

**Federal Communications Commission
Amateur Vanity Call Sign Requests
P. O. Box 358924**

Pittsburgh, PA 15251-5924.

Include FCC Form 159 (Remittance Advice) if you pay by VISA or MasterCard. (Discover and American Express cards are not accepted.) Your FCC Account No. is your 10 digit telephone number.

- 8) Electronically filed Form 610-V applications require a FCC Form 159 for any method of payment. Print out the form and send it along with your check, money order or credit card information to:

**Federal Communications Commission
Amateur Vanity Call Sign Requests
P. O. Box 358994**

Pittsburgh, PA 15251-5994.

This is a special box number set up to receive payments for electronically submitted Form 610-V's. Do NOT send your electronic Form 159 to the regular P. O. Box 358924 or to the FCC in Gettysburg.

- 9) Be aware that the regulatory fee for a vanity call sign increases to \$50.00 effective September 15, 1997. Your application must arrive at the FCC prior to this date for the \$30.00 fee to be correct. Your application will be returned if received with the incorrect regulatory fee.

- 10) The FCC will not wait for the check or credit card information to arrive or clear before assigning your new vanity call sign.
- 11) Anyone who submits a bad check - or a credit card account number that can't be charged - will have their vanity call sign assignment reversed.

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CUTTING EDGE TECHNOLOGY

■ More evidence that the Web is migrating to your living room. **Motorola** has unveiled a new "Scorpion" graphics and digital video encoder chip that allows a TV set to also be used to access interactive information. The inexpensive (about \$20) MC92100 chip opens multiple windows permitting users to watch television and browse the Internet at the same time.

■ **A prototype automated highway has opened in San Diego.** The National Highway System Consortium is demonstrating a 7.6 mile stretch of Interstate 15 where test vehicles are equipped with video cameras, magnets and radar navigation. A 1991 federal law empowers the Transportation Department to develop a "fully automated, intelligent vehicle-highway system." The objective is to cut down on highway costs. It costs less than \$10,000 to automate one highway mile with the new technology, compared with several million dollars to build new roads.

■ **Need to backup your hard disk? Do it on the Internet!** At least two firms: SafeGuard Interactive, Inc. (<http://www.sgii.com>) and Connected Corp. (<http://www.connected.com>) allow you to complete backups via a standard Internet connection. The SafeGuard Interactive Backup software costs \$29.99 including 3 months of service - with additional months being \$9.95 each. Initial backup takes 10 hours! Then it gets faster since only files that were modified are backed up. Application files (such as common word processing programs) are not backed up at all since the service already has copies of them. This saves a lot of time. You can order a CD-ROM of all your data for \$14.95 including overnight shipping. Connected Corp's rate is \$14.95 per month with the initial month being free.

■ **Another alternative to LEO (low earth orbiting) satellites is being developed** that will bounce communications signals off of long duration flight circling (or hovering) ultra-light aircraft.

The technology called "HALO platforms" -- stands for High Altitude Long Operation -- ...sort of a flying repeater. The still hush-hush concept was briefly mentioned in the May 1997 issue of *Sport Aviation*, the membership journal of the Experimental Aircraft Association.

The aircraft is being developed for

Angel Technologies of St. Louis, by famed aerospace design company, Scaled Composites, Inc., of Mojave, California. The design firm is headed up by legendary aircraft builder, Burt Rutan.

Rutan, 54 who holds an aeronautical engineering degree from California Polytechnic State University, is renowned for his design of light but strong aircraft built from composites.

He received worldwide attention for designing a strange-looking aircraft named *Voyager*, which in 1986 made aviation history by completing the first and only non-stop, unrefueled around-the-world airplane flight.

In the August 5th issue of "Air and Space" magazine (published by the Smithsonian) is an interview with Rutan who mentions the aircraft. "I'd say my most intense design work in the last several months has been on a new canard. A very graceful, high-altitude airplane that will provide and do a lot of the missions that these U-2-like airplanes would do. Telecommunications missions and so on. This [new] airplane's stall characteristics aren't an issue. It's an airplane that will always be professionally flown by two pilots. I did it for reasons of how you handle these external payloads, which can be large antennas, and how they have to look under the airplane when you bank."

When asked "Are you at liberty to say who you're designing this latest canard aircraft for?" he said:

"One of [them] is the Angel Corporation, who's developing telecommunication services in which their payload is a large antenna that looks down upon many thousands of subscribers and provides Internet and cellular-phone services, for example."

The Angel Corporation has a website (<http://www.angelcorp.com>) but you need a password to get past the front door. There is an artist's conception of a weird four-winged aircraft with two tails at the opening page of the website.

Four aircraft will circle (or hover) over a given area at 65,000 feet for as long as 18 hours to provide "service" to an area 120 miles across. A large radome-like payload suspended under the aircraft fuselage serves as a transponder for telephone and broadband multi-media LMDS (Local Multipoint Distribution Service) spectrum will be auctioned at year end. See the next story.) One hundred HALO's in the air at the same time can cover most areas in the continental United States.

Angel Technologies anticipates a large

international market -- especially to areas where it is too expensive or not feasible to string phone lines.

According to *Sport Aviation*, the HALOs will be certified and produced in a new 112,000 sq. ft. facility (to be known as "Scaled Technology Works") in Montrose, Colorado which is in the final stages of completion.

The telecommunications use of HALO aircraft while technically interesting, is not the real reason Burt Rutan is going all out on the aircraft. The St. Louis-based "X Prize Foundation" has announced that 10 teams have registered to compete for a \$10 million dollar prize in the first private race to space.

Flight vehicles have to be privately financed and built. Entrants can not use a launch vehicle substantially developed under a government contract or grant nor may they be funded by any tax-supported entity. (See <http://www.xprize.org>)

"Could you shed some light on your plan to participate?" Rutan was asked.

"This [race] is extremely important and interesting, because I think it can [lead to] flight out of the atmosphere -- just what the barnstormers opened up to flight in the atmosphere. It won't be done by NASA. And it won't be done by governments, and it won't be done by industry. It will be done by the barnstormers of space. That's what will let the common man fly out of the atmosphere. I think even suborbital flights -- where you have 3 to 5 minutes of weightlessness -- will be so much fun that it will be a profit-making tourism business. I have structured a plan, and a preliminary design, and a unique way at addressing the factors that make rockets dangerous, and eliminating those dangers. And if those guys put that money in the bank for the prize-winners to get, I'm going to go after it. Sure, why not?"

■ **On July 30th, the FCC announced that it would begin auctioning the LMDS (Local Multipoint Distribution Service) bands at 27.5-28.35 GHz, 29.1-29.25 GHz, and 31.0-31.3 GHz bands on December 10, 1997.** These bands will bring new broadband wireless services that will provide meaningful competition to existing cable TV, DBS satellite and telephone services.

The primary use for LMDS, however, will be for multichannel video programming and data services. The technology developed for use in this frequency band provides very high subscriber capacity for two-way video telecommunications.

The LMDS spectrum will be licensed

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by Basic Trading Areas (BTAs), for a total of 984 authorizations and 1,300 megahertz of spectrum. Two licenses, one for 1150 megahertz and one for 150 megahertz, will be awarded for each BTA. Incumbent local exchange carriers and cable companies may not obtain in-region 1150 MHZ licenses for three years. LMDS may be provided on either a common carrier or a non-common carrier basis, or both. Licensees will be required to provide "substantial service" in their service areas within 10 years.

EMERGING COMMUNICATIONS

■ The Aug. 11th issue of **Business-Week** contained a story entitled "**A New Babysitter.**" It is about Motorola's new brightly-colored "**Talk About**" two-way radio. These "no license required" hand-held UHF transceivers are among the first to be offered that access the new 14-channel Part 95 Family Radio Service.

FRS is the brainchild of Bob Miller, K2RM, Vice President, Merchandising at Tandy/Radio Shack. They originally petitioned the FCC to establish the service. Motorola heavily supported the concept in its official comments to the FCC.

The service uses spectrum that was freed from the General Mobile Radio Service. There are only four FCC rules (paraphrased below) that apply to FRS users:

§95.191 - Eligibility and responsibility - Unless you are a representative of a foreign government, anyone can operate the radios. No license (or station call signs) are required.

§95.192 - Authorized locations - The radio can be operated from any location regulated by the FCC or over international waters. This includes aboard any registered vessel or aircraft with the permission of the captain. Additional restrictions may be imposed if you interfere with an FCC monitoring facility or the National Radio Quiet Zone.

§95.193 - Types of communications - Any legal two-way voice communication is permitted with emergency messages having priority. FRS radios may not be connected to the public telephone system. One way communications to establish radio contact, send emergency messages, provide traveler assistance, make a voice page or to conduct a brief test is authorized. Also allowed is the continuous transmission of subaudible tones ...and audible tones lasting no more than 15 seconds.

§95.194 - FRS units - Radios must be

FCC certified and be so labeled by the manufacturer. They may not be internally modified nor be attached to any external antenna or power amplifier. A user's instruction manual must be supplied.

FRS technical standards

§95.627- FRS Channel frequencies - FRS units must be maintained within a frequency tolerance of 0.00025%. (They need not be crystal controlled.)

1:	462.5625	8:	467.5625
2:	462.5875	9:	467.5875
3:	462.6125	10:	467.6125
4:	462.6375	11:	467.6375
5:	462.6625	12:	467.6625
6:	462.6875	13:	467.6875
7:	462.7125	14:	467.7125

§95.631 - Emission types - (d) An FRS unit may transmit only emission type F3E (FM). A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications.

§95.633 - Emission bandwidth

The authorized bandwidth for emission type F3E transmitted by a FRS unit is 12.5 kHz.

§95.637 - Modulation standards - (a) A FRS unit must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency must not exceed 3.125 kHz.

§95.639 - Maximum transmitter power

power - (d) No FRS unit, under any condition of modulation, shall exceed 0.500 W effective radiated power (ERP). Provisions may not be incorporated for increasing its transmitter power.

§95.647 - Emission bandwidth - The antenna must be an integral part of the transmitter, have no gain (as compared to a half wave dipole) and must be vertically polarized.

Motorola's "Talk About" FRS radio is 4½ in. long and weighs 7 oz. Three AA batteries provide enough power for three hours of talk and 27 hours while idle. Range is about two miles. Cost: \$149 without LCD display.

■ Another undertaking of Bob Miller, K2RM is the unveiling of a new type of electronics super store dubbed "**Tech America**." The first (of four phase one stores) opened in Denver, Colorado just last week. And more are on the way! Tandy/Radio Shack got its start in electronics by purchasing some ham radio stores in the Boston area several decades ago. They are now returning to the field full blast!

TechAmerica is especially geared toward the electronics and computer enthu-

siast. The new TechAmerica (324 page ...soon to be 750 page) full color catalog contains thousands of hard-to-find parts and components. Tech America also carries all sorts of computer cases, motherboards, processors, memory, hard drives and other PC parts and accessories.

All telephone (1-800-877-0072) and mail orders are shipped the next business day. The store (located at 1550 S. Colorado Blvd.,) also contains a ham radio department complete with branded HF-/VHF/UHF communications equipment, antennas, do-it-yourself kits, technical books (more than 2,000 titles), ham license study material and the like. The amateur radio department manager is Jim Keesey, WB0AER of nearby Aurora, CO.

You can get a free copy of their huge catalog by writing to P. O. Box 1981, Ft. Worth, TX 76101 or by making an online Web request to <http://www.techam.com>

■ **RM-9107** (filed by Kenneth Collier, KO6UX) seeks to permit public service organizations and tax-exempt business to apply for organizational licenses in the General Mobile Radio Service. At present, GMRS licensees must be individuals 18 years of age or older. Like FRS, GMRS operates on eight channel pairs in the 462/467 MHZ band.

The FCC has previously ruled against organizational licensing since it did not want the GMRS to be overrun by commercial users. Collier believes that the number of GMRS licensees is declining and "...has a very low number of users per channel.... Allowing limited organization licensing will better utilize the limited GMRS allocation, while providing higher capabilities to groups whose activities benefit the public good," Collier said in his reply comments.

He also believes "A return to limited group licensing will give GMRS users more repeaters to use. ...Requiring new organizational users to have tax exempt status will prevent commercial users from returning to the service."

The Personal Radio Steering Group, a GMRS organization, opposes organizational licensing. PRSG believes that "public service operations have no place being mixed with family and personal users."

To the suggestion that the Family Radio Service could provide an alternative to GMRS organizational licensing, Collier says that the ½-watt FRS power limit is not adequate for reliable communications and that repeater operation is necessary to improve radio range.

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COMPUTER INFO

■ **Packard-Bell climbed to the top by selling PCs through general retailers such as Walmart.** But that isn't working any more and the firm now languishes in fifth place behind Compaq, IBM, Hewlett-Packard and Dell. (It is also the only PC maker to suffer a sales loss this year.) So Packard-Bell, now owned by Japan's NEC, is changing direction.

They are putting together a \$40 million advertising and direct mail campaign to reposition Packard-Bell NEC as a build-to-order -- direct-to-the-customer PC marketer. They will now go head-to-head against Dell Computer, Gateway 2000 and Micron Electronics. Packard-Bell NEC has also jettisoned some 8000 unhappy computer resellers.

■ **Apple computer has rehired its old advertising agency, TBWA Chiat/Day.** They were selected by Steve Jobs, Apple's co-founder - now back in a leadership role. Both the advertising agency and Jobs were ousted almost simultaneously from Apple in the mid-1980's. The "new direction" never worked.

■ **Apple NCs on the way?** Could be. We keep hearing rumors that Oracle chief executive Larry Ellison will join Apple's Board and will unveil a new management team. "You can't let Microsoft establish a monopoly," he is quoted as saying. Published reports naming Ellison's best friend, Steve Jobs to the top spot are being denied by Jobs. He says he'll stay at Pixar ("Toy Story") Animation Studios which he founded. But even without the title, Jobs is running Apple. Supposedly Ellison wants Apple to expand its product mix into the low end NC (network computer) business.

■ **HP now going for quantity as well as quality.** In stark contrast to its upscale lineup, Hewlett-Packard has introduced a \$999 Intel-based personal computer. HP is bowing to the marketplace where half of all PC's now sold are under \$1,500 ...most in the sub-\$1,000 category.

INTERNET NEWS

■ **Consumer ad spending on the Internet is up more than triple from a year ago.** According to the Internet Ad-

vertising Bureau, Web ad revenues for the first half of 1997 are estimated at \$300 million (vs. \$80 million a year ago.) The biggest advertiser? Microsoft naturally! They are pouring nearly \$3 million a month into Web advertising. IBM and AT&T are a distant second and third..

■ **Its official. The new Microsoft operating system will be called Windows 98.** It is being closely watched because of its integration of the operating system with Microsoft's Internet Explorer 4.0 Web browser. The final release of Windows 98 is slated for the first quarter of next year.

■ **Disney has a new Internet Service aimed at children 12 and under called the "Daily Blast."** For \$4.95 a month, children get a daily collection of interactive games, comics, and news, sports and entertainment aimed at kids. The big question is whether Disney can obtain a fee for their service when others are free. Disney also has a new "D-mail" on the way which allows users to incorporate graphic and audio Disney characters into their e-mail.

■ **Web filtering, blocking and censoring software such as Cyber Patrol and NetNanny don't work well.** They are dependent upon looking for certain words or X-rated sites. And no program can yet detect inappropriate graphics. "NetSnitch" (\$39.95) takes a different approach. It runs automatically, invisibly and continuously in the computer's background when a browser is linked to the Web and "monitors" instead of "censors." The only censorship that may take place is the child's self-censorship -- knowing that you will know where he or she has surfed. Password-protected NetSnitch allows parents to call up a list of sites complete with times visited by their children. A simple mouse click takes them directly to the site. The program even advises parents if it has been disabled. (Check it out at <http://www.netsnitch.com> or 1-888-424-5900)

■ **IBM is making their WBI (pronounced Webby) intelligent "concierge" software available free.** The program can remember usage patterns on the Internet, what sites are visited, alert users to site changes and helps people become more productive. It also alerts users to how fast a Web site is (slow is yellow), whether it is up and running (green light), down (red light) and the speed of its links. And Webby can be customized to capture particular websites and store them locally overnight. It can be downloaded from:

<http://www.networking.ibm.com/iag/iaghome.html>

■ **Sounds weird to us, but there is a service on the Internet called Travel-Bid.** The idea is to pay less for a vacation by cutting into a travel agency's commission. You call an airline, resort or cruise line, get a quote and make a reservation with no money down.

Then you pay \$5 to TravelBid to auction off your business during a designated bidding period. Travel agents check into the site and bid by e-mail for your business. The winning agent then takes over your reservation and charges your credit card. You get the tickets by air courier. Site is under new construction so wait for its reopening. (<http://www.travelbid.com>)

■ **Alta-Vista's new search engine is slick as well as fast!** New "dynamic categorization" refining tools allow users to screen out search results that contain certain words -- or to make certain words mandatory. Simply click on the "refine" button located next to the "search" button.

WASHINGTON WHISPERS

■ **Now that the Communications Decency Act has been struck down, Playboy Enterprises has filed a lawsuit against the government.** They claim that the section of the 1996 Telecomm Reform Act which forces cable channels purveying sexually explicit programming to supply filtering and blocking capability to all cable subscribers is unconstitutional.

The blocking is supposedly to prevent the inadvertent "bleeding" of explicit material into homes who chose not to subscribe is unconstitutional. Playboy CEO Christie Hefner said in a press release, "We believe that Section 505 is unconstitutional for the same reasons that the Supreme Court found the CDA to be invalid." Playboy believes the marketplace -- and not the federal government -- can and should ease American parents' concerns.

■ **The FCC has requested comments on what it calls its Strategic Plan.** The plan outlines various objectives of its: **Authorization of Service**, (re-engineer licensing to reduce time, design and implement innovative application filing systems, establish speed-of-service goals, and to utilize spectrum auctions whenever feasible) **Policy and Rulemaking**, (restructure and streamline the FCC, encourage telecommunications competition, and reduce

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licensee reporting requirements.)

Enforcement: (streamline complaint process to insure timely/satisfactory resolution, work with private sector and federal, state and local governments to investigate and quickly resolve telecommunications problems, and identify industry/consumer 'rules' issues through feedback.)

Public Information Services: (provide 'one-stop' information shopping, design systems for Internet application to ensure rapid dissemination and to encourage public participation in all FCC proceedings.).

■ **An agreement has been reached with Congress that could allow TV broadcasters to keep their old analog TV channels** they otherwise would have to surrender in nine years. In exchange for new digital second channels, the FCC told broadcasters they would have to return their old analog channels by 2006 for auctioning. But under a negotiated agreement, a TV station could keep its analog channel if:

- 1) less than 15% of TV households in the market don't have a new digital set or converter;
- 2) a major broadcast network is not broadcasting a digital TV signal; or
- 3) converter boxes are not generally available in the market.

■ **The Net Address fight is not over by a long shot!** The government has (thus far) managed to keep out of Internet regulation. But the issue of adding more network addresses is drawing considerable attention from the U.S. government. The Clinton administration has formed a task force to examine the issue, the Commerce Dept. wants to know how the system can be fixed and the Justice Dept. is conducting an antitrust probe into address registrations. Available addresses are shrinking fast leading to bidding wars over desirable names. Everyone seems to have their own plan on how to add new domain names. So far, none of the seven new approved domains have been implemented.

■ **William E. Kennard is President Clinton's choice to head up the FCC.**

Kennard has been the FCC's general counsel since 1993. If confirmed, he will be the Commission's first African-American chairman. He will succeed retiring chairman Reed Hundt. Even before the selection, Kennard was expected to replace Commissioner James Quello who will soon retire. House economist Harold Furchtgott-Roth had previously been nominated to fill Andrew Barrett's Republican seat. The two other Clinton nominations to the

FCC are (Republican) Michael Powell (son of retired Army Gen. Colin Powell) and Gloria Tristani (a New Mexico state regulator.) All four newly appointed Commissioners still have to be confirmed by the Senate, but no problems are anticipated. Commissioner Susan Ness is the lone carryover from the previous FCC.

tion. ...we have physicians who have volunteered to investigate and evaluate all of these applications if your feel a second level of expertise may need to be considered for these applications."

■ **Bad news on the upcoming Phase 3-D amateur radio satellite launch!** A meeting was held on July 16 in Marburg, Germany between the German Phase 3-D project leaders and officials of the European Space Agency (ESA). The purpose of the meeting was to discuss the launch schedule for Ariane 502, on which the Phase 3-D spacecraft is to fly at the end of September. For the amateur satellite to be aboard the rocket, it had to arrive in Kourou by August 10th.

Earlier, ESA had informed AMSAT that, following analysis of data from the failed Ariane 501 flight, they had significantly increased their estimates for the acceleration and vibration that the Phase 3D spacecraft is expected to encounter.

As a result of this new information, AMSAT brought in an independent structural engineer to review the spacecraft's design and construction. His report stated that, in order to be confident of surviving the increased vibration a number of modifications had to be made to the spacecraft.

Since that report, a substantial effort has been taking place at the Phase 3-D Integration Laboratory in Orlando, Florida to manufacture and install the recommended structural parts necessary to increase the spacecraft's vibration and acceleration capability.

This work will prevent AMSAT from delivering the spacecraft to Kourou on time. Thus, unless, something changes, which ESA does not presently contemplate, Phase 3-D will not be able to be launched on Ariane 502.

Despite, this very bad news, it is possible that the Phase 3D may yet fly on Ariane 502. They based this on a number of activities taking place in the preparation of the launch vehicle that, they believe, could cause a slip in the currently published ESA schedule. The ESA officials attending the Marburg meeting said that, if a slip should occur, which they do not currently contemplate, which results in the two schedules again becoming compatible, efforts would be made to substitute the Phase 3-D spacecraft for a "mass simulator" which would take the place of the satellite.

Therefore AMSAT is working toward completing the necessary structural modifications to the spacecraft, and conducting environmental testing.

(Thanks, AMSAT-NA President Bill Tynan, W3XO)

AMATEUR RADIO

■ **Over 30,000 scouts attended the National Boy Scout Jamboree in Virginia last week.** Of particular interest was the amateur radio contact arranged between K2BSA, the official callsign of the Boy Scouts of America and Mike Foale, KB5UAC, aboard the Mir space station on the morning of August 1st. Over 200 scouts, some hiking for more than an hour from their campsites, came to the K2BSA demonstration station at 4:30 am EST to witness the contact. Mike was able to talk to 10 scouts during the Mir pass. He also had a conversation in Russian with one of the visiting scouts from Siberia. (AMSAT News Service)

■ **Ira Wexler, M.D., (W3HEF, Columbia, MD) president of MARCO, an amateur radio organization whose members are physicians and dentists, has offered their services to help validate medical exemptions for Morse code examinations.**

He mentions that "At the recent national meeting of the Medical Amateur Radio Council, Ltd., in San Francisco there was considerable discussion of possible abuses of the medical exemption of the Morse code portion of the amateur radio license."

"We are of the impression that abuse of this privilege is definitely increasing, and with the increase in numbers of No-Code Techs who would happily look for an opportunity for advanced license status without the necessity to learn code, there may need to be some thought to validation of this medical exemption. This would preserve the exemption for the truly handicapped, while preventing its use by those who just do not want to take the time and trouble to learn the code."

He writes: MARCO has many physician members who are obviously acquainted with amateur radio as well as medical problems. We would like to offer our services to assist with this problem... This could be merely on a consultant basis to any VE team who would like a second opinion on a medical exemption applica-

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AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of August 1997:

Radio District	Group A	Group B	Group C	Group D
0 (*)	AB0GA	KI0JL	(***)	KC0BTY
1 (*)	AA1SO	KE1IB	N1ZQC	KB1CET
2 (*)	AB2EB	KG2MD	(***)	KC2CFZ
3 (*)	AA3PZ	KF3AF	N3ZTY	KB3BWB
4 (*)	AF4EL	KU4IZ	(***)	KF4TMZ
5 (*)	AC5NL	KM5LD	(***)	KD5BYR
6 (*)	AD6CN	KQ6QW	(***)	KF6NAY
7 (*)	AB7WE	KK7JE	(***)	KC7YYB
8 (*)	AB8AY	KI8DJ	(***)	KC8IHW
9 (*)	AA9US	KG9KZ	(***)	KB9RGI
N. Mariana	NH0B	AH0AY	KH0GT	WH0ABI
Guam	(**)	AH2DD	KH2SA	WH2ANT
Hawaii	AH7X	AH6PC	KH7FV	WH6DEF
Am. Samoa	AH8O	AH8AH	KH8DK	WH8ABF
Alaska	AL0F	AL7QU	KL0KC	WL7CUK
Virgin Isl.	(**)	KP2CL	NP2JR	WP2AII
Puerto Rico	NP3L	KP3BC	NP3PW	WP4NNK

* = All 1-by-2 & 2-by-1 call signs have been assigned.

** = All 2-by-1 call signs have been assigned.

*** = Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district.

Note: New prefix numerals now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) & Alaska (AL0/KL0)

[Source: FCC Amateur Service Database]

NEW AND UPGRADING AMATEUR STATISTICS FOR THE MONTH OF JULY 1997:

Amateur License	New Amateurs			Upgrading Amateurs		
	Class	1995	1996	1997	1995	1996
Novice	37	74	58	0	0	0
Technician	1779	1728	*1334	2	2	19
Tech Plus	246	125	108	312	303	282
General	108	50	15	412	313	310
Advanced	21	3	4	237	234	221
Extra Class	5	7	0	282	204	146
Club/Empty	143	42	172	0	10	3
Total:	2339	2029	1691	1245	1056	981
Increase:	-13.3%		-16.7%	-15.2%		-7.1%

(NOTE: * = Decrease in new Technician Class amateurs -- down 16.7% -- is due to the Question Pool changing on July 1, 1997. Applicants rushed to take their Element 2 and 3A examinations before the June 30, 1997 deadline.)

[Source: FCC Amateur Service Database]

BRIAN MILESHOSKY N5ZGT, NAMED "1997 YOUNG HAM OF THE YEAR"

Brian Mileshosky (N5ZGT), of Albuquerque, New Mexico has been chosen as the "1997 Young Ham of the Year." Brian is 17, the son of Janet and Patrick Mileshosky, and has just graduated from high school. He will en-

ter the University of New Mexico in the fall, enrolling in the School of Engineering with a career aspiration of possibly joining the Astronaut Corps.

Brian was nominated by Jay Miller (WA5WHN), who has known Mileshosky since he was first licensed. Miller calls Brian: "...a truly dedicated young adult who uses his Amateur Radio hobby as a service to benefit his fellow man."

A General Class licensee first licensed at the age of 12, Brian is active on all bands and modes with the exception of SSTV, satellites, and microwave. He has a particular affinity for QRP, and has been part of record-setting long-distance QSOs. As Worldradio Magazine's Youth Columnist, Brian has encouraged other young people to find their own place in the hobby, has served as "Elmer" to many younger boys and girls.

The Boy Scouts of America has played a large part in Brian's life. He is an Eagle Scout, and a member of the Order of the Arrow. In addition to serving as Post President, he was Senior Patrol Leader in the 1997 National Jamboree Troop.

Presentation of the 1997 Newsline Young Ham of the Year Award to Brian Mileshosky (N5ZGT) will be made on Saturday evening, August 16, at the Huntsville Hamfest banquet in Huntsville, Alabama. The award ceremony will be co-hosted by Bill Pasternak (WA6ITF) of Newsline, Kevin Karamanos (WD6DIH) of Yaesu USA Corporation, Rich Moseson (W2VU) of CQ Publishing and YHOTY Award Committee Chairman Larry Zettwoch (KR4IF). Also taking part will be Awards Committee member Rosalie White (WA1STO) and the 1994 Young Ham of the Year, Allison Zettwoch, (KD4CKP).

As "Young Ham of the Year," Mileshosky will receive -- courtesy of Yaesu USA -- an expense paid trip to the 1995 Huntsville Hamfest along with a gift of Yaesu ham radio equipment. The Amateur Radio Newsline administers this award program.

On learning of the selection of Brian Mileshosky as this year's winner, Kevin Karamanos, (WD6DIH), Yaesu's Amateur Radio National Sales Manager, released a statement congratulating him.

Karamanos said: "Yaesu is pleased to see so many fine young people nominated for this award and who have become so deeply involved with Amateur Radio. This is the primary reason that we support this award program. To us, Brian Mileshosky is an excellent example of today's American youth and we join with all of the nation's Radio Amateurs, young and old, in commending him on his great achievements at such a young age."

The Newsline Young Ham of the Year award program is now entering its 13th consecutive year, is presented annually to a licensed Radio Amateur (Ham) who is 18 years of age or younger and who has provided outstanding service to the nation, his community or the betterment of the state of the art in communications through the Amateur Radio hobby/service.

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FCC ADOPTS GUIDELINES FOR ASSESSING FINES

The FCC has adopted revised guidelines for determining "forfeitures" -- administrative fines -- imposed against those licensees who violate the radio rules.

In 1989, Congress amended the Communications Act to increase the maximum dollar amounts for forfeitures that the Commission could impose. The amounts that could be charged were divided into three categories: broadcast, common carrier and all others.

The new standards were released on August 1, 1991, replacing forfeiture amounts that were previously calculated on case-by-case basis. The new base forfeiture amounts could be adjusted up or down.

In 1993, however, the courts ruled the new standards invalid since they were enacted without required public "notice and comment." As a result, the FCC returned to determining fines on a case-by-case basis.

The FCC has now gone through the required rule making procedures. Their proposal was exactly the same as the guidelines set out in the original Policy Statement.

Conclusions:

The FCC concluded that the forfeiture guidelines are intended as a guide for frequently recurring violations and are not intended to be a complete list of violations. Mitigating factors will be used to make adjustments in all appropriate cases. The fact that a particular violation is not listed should not be taken to mean that it is unimportant or nonexistent.

The FCC is using the \$10,000 statutory maximum as a basis for establishing uniform base forfeiture amounts. The base forfeiture amount for "misrepresentation" was set at the statutory maximum. "Any entity or individual that engages in this type of behavior should expect to pay the highest forfeiture applicable to the service at issue. The Commission expects, and it is each licensee's obligation, to know and comply with all of the Commission's rules," the Commission said.

"Although we have adopted the base forfeiture amounts as guidelines to provide a measure of predictability to the forfeiture process, we retain our discretion to depart from the guidelines and issue forfeitures on a case-by-case basis..."

"Under the Act, many of the services in the 'other' category, e.g., citizen band (CB) radio, domestic ship radios and aircraft radios are licensed by rule. Except for [flagrant] violations, it has been our general practice to issue warnings to first time violators who are not licensed on an individual basis. Thus, this type of violator would receive a forfeiture only after it has violated the Act or rules despite the prior warning ...except in egregious cases involving harm to others or safety of life issues..."

"...we recognize that for large or highly profitable communications entities, the base forfeiture amounts ...are generally low. [W]e caution all entities and individuals that, we intend to take into account the subject violator's ability to pay in determining the amount of a forfei-

ture to guarantee that forfeitures issued against large or highly profitable entities are not considered merely an affordable cost of doing business."

Guidelines for assessing forfeitures

The forfeiture ceiling per violation or per day for a continuing violation is \$25,000 for broadcasters and cable operators or applicants, \$100,000 for common carriers or applicants, and \$10,000 for all others. The base amounts listed are for a single violation or single day of a continuing violation. For continuing violations involving a single act or failure to act, the statute limits the forfeiture to \$250,000 for broadcasters and cable operators or applicants, \$1,000,000 for common carriers or applicants, and \$75,000 for all others.

The FCC noted that under the *Debt Collection Improvement Act of 1996*, monetary penalties assessed by the federal government must be adjusted for inflation at least every four years based on the formula. The statutory maximum has therefore been increased to \$27,000 for broadcasters and cable operators; \$110,000 for common carriers, and \$11,000 for others.

For continuing violations, the statutory maximum increased to \$275,000 for broadcasters, cable operators, or applicants; \$1,100,000 for common carriers or applicants; and \$82,500 for others. The increased statutory maximum became effective March 5, 1997.

The list of base amounts of forfeitures is very lengthy and we are listing below only some of the violations that could apply to amateur radio operations:

VIOLATION	AMOUNT
Misrepresentation/lack of candor	\$10,000
Unlicensed Operation	\$10,000
Violations relating to distress/safety frequencies	\$8,000
False distress communications	\$8,000
Failure to permit inspection	\$7,000
Transmission of indecent/obscene materials	\$7,000
Interference	\$7,000
Importation or marketing of unauthorized equipment	\$7,000
Exceeding power limits	\$4,000
Failure to respond to Commission communications	\$4,000
Unauthorized emissions	\$4,000
Using unauthorized emissions/frequency	\$4,000
Failure to engage in required frequency coordination	\$4,000
Failure to provide station ID	\$1,000
Failure to maintain required records	\$1,000

Upward Adjustment Criteria

- (1) Egregious misconduct
- (2) Ability to pay/relative disincentive
- (3) Intentional violation
- (4) Substantial harm
- (5) Prior violations of any FCC requirements
- (6) Substantial economic gain
- (7) Repeated or continuous violation

Downward Adjustment Criteria

- (1) Minor violation
- (2) Good faith or voluntary disclosure
- (3) History of overall compliance
- (4) Inability to pay

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Reply comments

→ → → → → Continued from Page 3

Replies were filed by Flash Comm and *Mobile-Media Communications, Inc.* Flash Comm pointed out that its operating carrier frequency list excludes channels within the maritime and aviation safety service bands and the current amateur radio bands. Furthermore, Flash Comm states that it can temporarily or permanently "lock out" (exclude from further usage) any specific HF channels that may be in use under an emergency STA or that may be found to cause adjacent channel interference, or any channels that may be allocated to the amateur radio service in the future, the concern noted by ARRL. Flash Comm also withdrew its request for waiver of the type acceptance rule.

After additional correspondence between Flash Comm and DoD, and meetings with NTIA, Flash Comm developed a set of proposed licensing conditions that it believed would adequately address the collective concerns of the Federal agencies that use the HF spectrum.

The proposed licensing conditions include a number of provisions intended to reduce the likelihood of harmful interference to existing active and passive HF operations, and to provide procedures for immediate relief in the event interference does occur.

For example, the Flash Comm system will be controlled by a master control center having the capability to selectively cease transmission from any transponder or from all transponders. The Flash Comm transponders may transmit only on HF channels specified in a list of carrier frequencies. That list contained about a thousand channels between 3.170 and 25.037 MHz. Most are on sparsely used aviation and maritime frequencies ...but some were allocated to international broadcasting, point-to-point and business use.

Additionally, the conditions establish limits on the duration of transmissions, geographic channel occupancy, directivity of HF transmit antennas and daily average power density and daily transmitted energy. The Flash Comm HF service may operate only on a secondary basis to other authorized HF services. Only FCC type-accepted HF transmitting equipment may be used.

On May 12, 1997, Flash Comm filed a petition requesting that the Commission initiate a rule making proceeding to adopt rules to authorize their system. This petition was assigned the number RM-9104. The FCC chose to act on Flash Comm's waiver request rather than the petition.

FCC Decision

The FCC agreed that its rules provide for a waiver when unique circumstances are involved and when a grant of the requested waiver would be in the public interest. The FCC believes that the company has made a compelling case that its service will indeed be a unique and cost-effective way to monitor public and private property.

"We find that applying rules designed for conventional VHF and UHF private radio facilities to the Flash Comm system would be inequitable, unduly burdensome, and contrary to the public interest," FCC said.

The Commission concluded that Flash Comm's modified proposal satisfactorily addressed the interference concerns. They also noted that the list of Flash Comm HF channels does not include frequencies falling within the maritime or aviation safety service or the current amateur radio bands.

"In regard to prospective future allocations to the amateur radio service, we note that, in the event such band expansions for the amateur radio are made in the future, Flash Comm's operation will be on a secondary basis to amateur radio operations in those segments, and that any interference problems that may occur can be addressed at that time."

The FCC noted that operation of the Flash Comm system may yield operational and technical data that could be useful to the Commission in its consideration of proposed rules for regular operations in the HF spectrum. The Flash Comm system is designed to automatically maintain log data showing the technical parameters resulting in successful data communications over the HF link.

Accordingly, the FCC waived several of their rules and granted Flash Comm a 5 year authorization to Flash Comm to construct and operate their system. Flash Comm's authority to operate facilities in the HF spectrum is subject to certain technical and operating conditions.

Each HF transmitted packet must be identified by a digital identifier embedded in the preamble of the packet. The Flash Comm system may make HF transmissions using only specified carrier frequencies which may be changed.

A 15 kHz guard band is preserved between Flash Comm operations and aeronautical, radio astronomy, maritime, amateur, time standard and industrial, scientific and medical bands, and the total spectrum specified for use by the Flash Comm system does not exceed 11.7% of the spectrum between 3 and 27 MHz (2.8 MHz).

The duration of each HF transmission by each Flash Comm transmitter must not exceed 4 seconds and occupancy (accumulated transmissions) on each HF channel must not exceed one percent (36 seconds) in each hour. The radiated power of the transmitter and its antenna system(s) as typically installed must not exceed one watt. The authorized bandwidth is 3.0 kHz.

HF transmit antennas used in the Flash Comm system must be of a type that has no more directivity than a half-wavelength dipole antenna or a quarter-wavelength monopole on a ground plane.

Furthermore, Flash Comm must log and make publicly available via the Internet the time, frequency, location and duration of all completed Flash Comm HF transmissions for the prior 24 hours.